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THE COMPARATIVE ADVANTAGES OF MEAT PRODUCTION IN THE ARAB WORLD

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ABSTRACT

The study aims to try to restructure the meat production in the Arab world through the application of the indicator of Comparative advantages and the research method has adopted on estimating the indicators of Comparative advantage for the production of different kinds of meat in the Arab world as a whole in addition to estimating each of the Arab countries during the average study period (2009 - 2011), by estimating two indicators of Comparative advantage; the first indicator is to estimate the cost of domestic resource, while the second is to estimate the net economic benefit. The study relied in obtaining the data on some websites, in addition to the data of the Arab Organization for Agricultural Development. The most important findings of the study are the difference among the Arab countries in their Comparative advantage for the production of meat in the Arab world by about 60%. 45% and 40% in red meat, poultry and fish, respectively, from the total number of Arab countries. The study recommended the need to restructure the production of meat in the Arab world that each country specializes in the production of a commodity in which it has a Comparative advantage in comparison with other countries.

KEYWORDS: Comparative Advantages, Arab Countries, Meat Production

INTRODUCTION

The Arab production of meat group is an average production when it is compared with the size of the actual needs of the Arab citizen and the total amount of meat of the Arab world is about 8.4 million tons of which red meat occupies about 57 % while white meat occupies about 43 %. In spite of the attainment of self-sufficiency ratio of red meat by about 76 % in the Arab region, the value of food gap in it accounted for about 14.1 % of the total value of the gap in meat in the Arab region. Red meat is one of the major food commodities on which that are increasing demand with the increasing rates of population growth and rising income levels. The total production of the Arab red meat is estimated by about 4.7 million tons, as the size of the gap is estimated by about 3 million tons in 2011. The production of Sudan represents about 35.9 % of the Arab production of red meat, followed by Somalia by about 26.5 %, Saudi Arabia by about 12.1%, Egypt by about 10 % and Mauritania by about 6.4% from the total red meat production in the Arab world in 2011.

Study Problem

Despite the increasing meat production in 2011 to reach about 8.4 million tons, with an increase estimated at about 6%, it has been shown the increasing volume and value of the gap of meat to reach about 3 million tons and 7.8 million dollars during the same year, with an increase estimated at 11.1% and 41.8% in comparison with 2009. It also shows the growing gap value greater than the increase in the size of the gap, with the continuous noticeable rise of the dollar price which will lead to continuation of the growing Arab food bill of meat and increase in the deficit in the Arab food balance of meat.

Study Objective

The study aims to try to restructure the meat production in the Arab world through the application of the

Comparative advantages of indicator, where the Comparative advantage refers to the ability of an economy to produce a commodity at a lower cost than any other economy through available productive factors in it. The concept of Comparative advantage can be applied to the individual s, the institutions and the communities. The absolute advantage briefly reflects the ability of certain acquired enjoyed by individuals, communities and institutions. The absolute advantage refers to the ability of an economy to produce a greater quantity of products using certain quantity of inputs in comparison with other economies which means that using similar productivity factors leads to greater production in countries that enjoy absolute advantage, for example, the United States has absolute advantage in agricultural production when it is compared with other countries that use the same amount and the same kind of factors of production due to the high fertility the agricultural lands enjoyed in the United States.

Research Method & Data Sources

The research method is to estimate indicators of Comparative advantage for the production of different kinds of meat in the Arab world as a whole in addition to estimating each of the Arab countries during the average study period (2009 - 2011), by estimating indicators of Comparative advantage : the first indicator refers to estimating the cost of domestic resource, while the second indicator refers to estimating the net economic benefit in order to estimate the Comparative advantage of each country, which would facilitate restructuring the Arab world production of various kinds of meat according to the obtained results. The study also relied in getting the data on some websites, in addition to the data of the Arab Organization for Agricultural Development.

Measures of the Used Comparative Advantage

The study is based on the measures of Comparative advantage; the first is the cost of domestic resource and the second is the net economic benefit to identify the Arab countries, which are characterized by a Comparative advantage in the production of different kinds of meat in the Arab world, which helps in restructuring the Arab world in the production of various kinds of meat and therefore restructuring the livestock production in the Arab world.

The Domestic Resource Cost (DRC)

This measure can be used in order to compare the costs of alternative opportunities for domestic production of the commodity under study with the added value arising out of it. This indicator can be counted, according to the following formula: -

Domestic resource cost (DRC) = the value of domestic resources and inputs that are not traded according to Silhouette prices / Net revenues or savings of foreign currency by producing domestic commodity and can be written as follows: DRC = G / E-F

Where:

G = domestic resource cost at shadow prices

E = amended border Price of output unit

F = cost of inputs traded at border prices of output unit

The measure of the cost of domestic resource takes range of numeric values and the order of these values indicates the different levels of efficiency of domestic production, or its power of global competition and the used exchange rate must be the shadow exchange rate. If the value of the cost of domestic resource is less than one it indicates that the country's economy saves foreign currencies from domestic production because the costs of alternative

opportunities of domestic resources are less than what it gets from the net foreign exchange (in the case of exports) or savings (in the case of import substitution) and refers to the efficiency and global competitiveness and vice versa if the value of the cost of domestic resource is more than one this indicates that the country's economy is unable to save foreign currency from domestic production because the costs of alternative opportunities of domestic resources are bigger than what it gets from the net foreign currency in the case of exports or imports. If the value of the cost of domestic resource is equal to one, this refers to that the country's economy does not get or save net foreign currencies is from domestic production.

The Net Economic Benefit (NEB)

This indicator reflects the difference between the total value of production and the total cost of all the inputs either traded or not traded or primary inputs, and this difference is estimated at the economic prices especially border prices and shadow prices. The economic benefit reflects the economic surplus resulting from the production process, and this indicator is counted by measuring the cost of domestic resource as follows: - NEB = E – F – G

Where:

E = amended border price of output unit.

F = cost of traded inputs at border prices of output unit.

G = domestic resource cost at shadow prices.

The interpretation of the net economic benefit depends on the values of the cost of domestic resource. If the values of the cost of domestic resource are less than one, the sign of benefit is positive and reflects the efficient use of resources. If the values of the cost of a domestic resource are more than one, the sign of benefit is negative and reflects the inefficient use of resources. The benefit equals zero if the value of the cost of domestic resource equals one. The value of each of the cost of domestic resource, and the net economic benefit depends on some factors such as the used production method, production capacity, production area, the level of demand in the domestic and overseas markets, and the exchange rate, which reflects the current efficiency and does not contain sufficient information to take future decisions.

Method of Counting the Coefficients of Comparative Advantage for the Production of Different Kinds of Meat in the Arab World

The indicator DRC is one of measures of the relative efficiency of the domestic output and it tends to complexity, so it was necessary to search for a short way to estimate the cost of domestic resource as well as the net economic benefit. There are possibilities to simplify counting them, assuming that the requirements of production factors of the commodity are quite similar to another alternative output, and the traded inputs are formed by 30% or less of the used total costs in the production process and then the cost of domestic resource can be estimated, taking into account the relative productivity of the commodity and its border prices through the comparison between the total value of the commodity with its best alternative chosen for it at border prices The dependence of this research was on the net percentage that represents the net weight of the animal after the slaughtering process as shown in Table 1. The table illustrates the net percentage of red meat, and poultry as the best alternative to red meat, and fish as it is the best alternative for poultry and, finally, considering that the best alternative to fish is red meat.

Table 1: The Net Percentage of Meat in the Arab World

Animal	Net Percentage	Average
Cows, Buffaloes and Sheep	**60 - 50**	**55**

Table 1: Contd.,

Poultry	**75 - 70**	**73**
Fish	**75 - 65**	**70**

Source: The impact of price policy on the Comparative advantage for the production of meant kinds in Iraq for the period (1983 - 2007) - Journal of Management and Economics - Issue (82) – 2010.

The cost of domestic resource for the types of meat can be counted by the following mathematical relationships:

- DRC for red meat = border price of poultry *net percentage of poultry / border price of red meat * net percentage of red meat
- DRC for poultry = border price of fish * net percentage of fish / border price of poultry* net percentage of poultry
- DRC for fish = border price of red meat * net percentage of red meat / border price of fish* net percentage of fish

The Cost of Domestic Resource and Economic Value for the Production of Different Kinds of Meat in the Arab World

Table 2: The Cost of Domestic Resource and the Net Economic Benefit of Red Meat and Poultry in the Arab World during the Average Period (2009-2011)

Country	Domestic Resource Cost of Red Meat	Net Economic Benefit of Red Meat	Domestic Resource Cost of Poultry	Net Economic Benefit of Poultry	Domestic Resource Cost of Fish	Net Economic Benefit of Fish
Jordan	0.632	Positive	1.818	Negative	0.870	Positive
Emirates	1.061	Negative	1.168	Negative	0.807	Positive
Bahrain	0.717	Positive	0.727	Positive	1.917	Negative
Tunisia	0.673	Positive	0.662	Positive	2.243	Negative
Algeria	0.125	Positive	6.765	Negative	1.184	Negative
Djibouti	1.207	Negative	1.900	Negative	0.436	Positive
Saudi Arabia	1.019	Negative	0.777	Positive	1.507	Negative
Sudan	0.271	Positive	7.261	Negative	0.509	Positive
Syria	1.012	Negative	-	-	0.988	Positive
Iraq	0.679	Positive	0.838	Positive	1.759	Negative
Oman	0.641	Positive	1.406	Negative	1.109	Negative
Palestine	1.038	Negative	1.459	Negative	0.660	Positive
Country	0.523	Positive	1.315	Negative	1.456	Negative
Kuwait	0.636	Positive	1.137	Negative	1.383	Negative
Lebanon	0.809	Positive	0.877	Positive	1.093	Negative
Libya	1.698	Negative	0.655	Positive	0.898	Positive
Egypt	0.942	Positive	0.752	Positive	1.412	Negative
Morocco	0.421	Positive	1.756	Negative	1.506	Negative
Mauritania	1.277	Negative	0.626	Positive	1.251	Negative
Yemen	2.089	Negative	0.549	Positive	0.872	Positive
Total	**0.787**	**Positive**	**1.075**	**Negative**	**1.181**	**Negative**

Source: Counted and Collected from the Statistical Yearbook of the Arab Organization for Agricultural Development Number (32).

Table 2 indicates that the values of the cost of domestic resource and signals of the net economic benefit for the production of different kinds of meat in the Arab countries during the period (2009-2011). For the production of red meat, it was found that the total Arab world has a Comparative advantage in the production of red meat and all of Jordan, Bahrain, Tunisia, Algeria, Sudan, Iraq, Oman, Qatar, Kuwait, Lebanon, Egypt, Morocco also enjoy a relative advantage in the production of red meat locally as producing it locally is more efficient from importing from abroad with lower costs of production locally and the economy of these countries is able to save foreign currency from domestic production and is capable of global competition and this is confirmed by the positive signal for the economic benefit of these countries and

the total Arab world. As for the rest of the Arab countries, the negative sign for the economic benefit and the high value of the domestic costs for the production of red meat in Jordan, Djibouti, Saudi Arabia, Syria, Palestine, Libya, Mauritania and Yemen indicate the decline of Comparative advantage of these countries in the production of red meat and that the economy of these countries is unable to provide foreign currency from domestic production, the best for these countries is to import this commodity from abroad.

As for poultry production, it has been shown by the high cost of domestic production and also the negative sign for the economic benefit development in the total Arab countries and all of Jordan, UAE, Algeria, Djibouti, Sudan, Oman, Palestine, Qatar, Kuwait and Morocco, their lack of advantage of the local productivity of producing this commodity and also the inability of the economy of these countries to provide foreign currency from the production of this commodity locally, in addition to their weak ability for global competition in this commodity, so it is preferred for these countries to import this commodity than to produce it locally, while the rest of the Arab countries enjoy a Comparative advantage in the production of poultry locally as a result of the lower costs of producing it locally in comparison with importing it from abroad, which is illustrated by positive signal for the economic benefit of these countries which are represented in Bahrain, Tunisia, Saudi Arabia, Iraq, Lebanon, Libya, Egypt, Mauritania and Yemen and this refers to the ability of the economy of these countries to provide foreign currency from domestic production of poultry, and also the ability of these countries for the global competition, as shown in Table 2.

As for the production of fish locally, it has been shown that all of Jordan, Emirates, Djibouti, Sudan, Syria, Palestine, Libya and Yemen enjoy a relative advantage in the production of fish locally resulting from the low cost of domestic production and this is illustrated from the result of the cost of domestic resource of fish in addition to the positive signal of the net economic benefit of fish, which refers to the ability of these countries to provide foreign currencies from the production of this commodity in addition to the ability of these countries for the global competition of this commodity. It turns out that the total Arab countries and some countries, including Bahrain, Tunisia, Algeria, Saudi Arabia, Iraq, Oman, Qatar, Kuwait, Lebanon, Egypt, Morocco and Mauritania did not enjoy a relative advantage of producing fish locally and this is illustrated by the value of the cost of domestic resource of fish in addition to the negative sign for the net economic benefit of this product in these countries as shown in Table (2) and this reflects that these countries are characterized by the high cost of fish production locally in addition to their inability to provide foreign currencies or for global competition of producing this commodity locally and they are preferred to import this commodity.

The Most Important Results and Recommendations

The most important findings of the study can be confined to the following:

- There are Arab countries which have a Comparative advantage in the production of red meat, poultry and fish by about 60%. 45%. 40%, respectively, from the total number of Arab countries.
- There are also some Arab countries which have a Comparative advantage in the production of both red meat and poultry by about 25% of the total number of Arab countries, including Bahrain, Tunisia, Iraq, Lebanon and Egypt.
- As it turns out that there are some Arab countries have a Comparative advantage in the production of both red meat and fish by about 10% of the total number of Arab countries, including Jordan, and Sudan.
- And finally it is shown that there are some Arab countries that have a Comparative advantage in the production of poultry, and fish by about 10%, including Libya and Yemen.

In light of the previous findings the study recommends the necessity and inevitability of activating joint Arab

cooperation especially in the current circumstances experienced by the Arab region and the resulting Arab Spring revolutions and their social, political and economic results targeting dismantle what remains of Arab unity and one of the most important characteristics of joint Arab cooperation in this respect, is to urge the wealthy Arab countries with low Comparative advantage in local production of any of the commodities under study to contribute in directing part of their investments for various projects of animal production in the Arab countries which have a Comparative advantage in the production of any of these commodities locally. This is besides the need to restructure the production of meat in the Arab world that every Arab state specializes in the production of commodity in which it has a Comparative advantage when it is compared to other Arab countries. To achieve this, it requires the necessity of activating the trade cooperation among Arab countries in any of those commodities under study and in case of the inability of Arab countries to provide the needs of the Arab region from their production of meat, these Arab countries with no Comparative advantage of producing any of these commodities under study try to increase the volume of their imports from abroad for the high costs of domestic production and then re-export the surplus of imports to other Arab countries provided that the Arab countries that import these commodities took them for low import price in comparison with the import price of other Arab countries of the same commodity.

CONCLUSIONS

The study reached the conclusion that there are some Arab countries which are characterized by a Comparative advantage in the production of red meat, poultry and fish by about 60%, 45 % and 40 %, respectively from the total number of Arab countries. The study recommended the need to urge wealthy Arab states with low Comparative advantage in domestic production of any of the commodities under study to contribute in directing part of their investments for the establishment of different animal production projects in Arab countries with Comparative advantage in the production of any of these commodities domestically. This is besides the need to restructure the production of meat in the Arab world that Arab country produces the commodity in which it has Comparative advantage in comparison with other Arab countries.

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